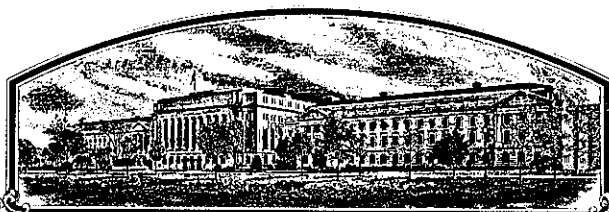


No.



8800061

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Busch Agricultural Resources, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE
Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS OF THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

BARLEY

'B1603'

In Testimony Whereof, I have hereunto set
my hand and caused the seal of the Plant
Variety Protection Office to be affixed
at the City of Washington, D. C.
this 29th day of March in
the year of our Lord one thousand nine
hundred and ninety-one.

Attest

Kenneth H. Evans

Commissioner

Plant Variety Protection Office
Agricultural Marketing Service

Ed Madison
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

FORM APPROVED: OMB NO. 0581-0055

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

1. NAME OF APPLICANT(S) Busch Agricultural Resources, Inc.		2. TEMPORARY DESIGNATION 6B82-2637	3. VARIETY NAME B1603
4. ADDRESS (Street and No. or R.F.D. No., City, State, and Zip Code) 806 N. 2nd Street Berthoud, Colorado 80513		5. PHONE (Include area code) (303)532-3721	FOR OFFICIAL USE ONLY PVPO NUMBER 8800061
6. GENUS AND SPECIES NAME Hordeum vulgare L.	7. FAMILY NAME (Botanical) Gramineae		FILING DATE February 1, 1988 TIME 1:30 <input type="checkbox"/> A.M. <input checked="" type="checkbox"/> P.M.
8. KIND NAME Spring Barley	9. DATE OF DETERMINATION 1=1982 2=1986		FEES RECEIVED AMOUNT FOR FILING \$ 1800.00 DATE February 1, 1988 AMOUNT FOR CERTIFICATE \$ 200.00 DATE Feb. 19, 1991
10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION (Corporation, partnership, association, etc.) Corporation			12. DATE OF INCORPORATION 1/1/81
11. IF INCORPORATED, GIVE STATE OF INCORPORATION Delaware			
13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS Dr. Melvern K. Anderson Busch Agricultural Resources, Inc. 806 N. 2nd Street Berthoud, CO 80513 (303)532-3721 or C. Bruns Nickerson American Plant Breeders Inc. 806 N. 2nd Street Berthoud, CO 80513 PHONE (include area code):			
14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED a. <input checked="" type="checkbox"/> Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.) b. <input checked="" type="checkbox"/> Exhibit B, Novelty Statement. c. <input checked="" type="checkbox"/> Exhibit C, Objective Description of Variety (Request form from Plant Variety Protection Office.) d. <input checked="" type="checkbox"/> Exhibit D, Additional Description of Variety. e. <input checked="" type="checkbox"/> Exhibit E, Statement of the Basis of Applicant's Ownership. f. Exhibit: Quality and Agronomic Data			
15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act.) <input checked="" type="checkbox"/> Yes (If "Yes," answer items 16 and 17 below) <input type="checkbox"/> No			
16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input checked="" type="checkbox"/> Foundation <input checked="" type="checkbox"/> Registered <input checked="" type="checkbox"/> Certified	
18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.? <input type="checkbox"/> Yes (If "Yes," give date) <input checked="" type="checkbox"/> No			
19. HAS THE VARIETY BEEN RELEASED, OFFERED FOR SALE, OR MARKETING IN THE U.S. OR OTHER COUNTRIES? <input type="checkbox"/> Yes (If "Yes," give names of countries and dates) <input checked="" type="checkbox"/> No			
20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable. The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.			
SIGNATURE OF APPLICANT Melvern K. Anderson		DATE 1-18-88	
SIGNATURE OF APPLICANT Busch Agr. Res., Inc.		DATE	

EXHIBIT A.

ORIGIN AND BREEDING HISTORY OF B1603

PEDIGREE: Glenn/6B78-628//Morex/6B78-628

DATE OF CROSS: Each single cross was made in the spring 1979 greenhouse; the F1's were combined in a double cross in the fall 1979 greenhouse. The F1 was grown in the spring 1980 greenhouse.

HISTORY: F2 plants were grown at Hunter, North Dakota in 1980. A single seed from an F2 head selection was advanced by single seed descent in the fall 1980 greenhouse. An F4 head-row was selected in Hunter, North Dakota in 1981. Malting quality prediction tests on remnant F4 seed assisted in the selection of an F5 seed increase plot in Yuma, Arizona for yield testing an F2 derived F6 bulk at Hunter and St. Thomas, North Dakota in 1982. This line advanced to second year yield trials in 1983. In 1984 head selections were made to initiate purification and multiplication. These 224 head-rows were grown and 222 rows were selected to serve as bulk Breeder seed.

This seed served as the pure seed source and yield trial source. B1603 was tested in yield trials from 1982-1987 at Moorhead and Climax, Minnesota and Hunter and St. Thomas, North Dakota. Additional test sites in 1985 were Borup, Minnesota and 1985-1987 at Stephen, Minnesota.

Purification was initiated in 1985. There were 224 head-rows grown at our Berthoud, Colorado location and 2 were discarded. These selected head-rows were harvested to form Breeder seed. Foundation seed was produced during the summer of 1987 at Moorhead, Minnesota.

Future head-rows will be grown as necessary to constitute breeder seed. The two seed production fields to date have been uniform and stable. Less than .5% of the plants were rogued from the foundation fields in 1987. 98% of the rogued variant plants were 2-4 centimeters taller than B1603. Less than .3% total variant plants may be encountered in subsequent generations.

EXHIBIT B.
NOVELTY STATEMENT

B1603 is most similar to the spring barley variety 'B1602' morphologically, and most similar to 'Morex' and 'B1602' in quality characteristics. However B1603 can be easily distinguished from both varieties by the following characteristics:

- B1603 has a semi-erect juvenile growth habit. B1602 has an erect juvenile growth habit.
- B1603 has a stem exertion of between 3 to 10 centimeters. B1602 has a stem exertion of between 10 to 15 centimeters.
- B1603's lateral kernels overlap from 1/4 to 1/2 of the head. B1602's lateral kernels overlap at the tip of the head.
- B1603 is 5 centimeters shorter than B1602, (see statistical data page 1).
- B1603 is 2 days earlier than B1602, (see agronomic data page 2).
- B1603 has long rachilla hairs. Morex has short rachilla hairs.
- B1603 has a rough awn. Morex has a smooth awn.
- B1603 has higher protein than B1602, (see quality data page 3).
- B1603 has a higher diastatic power than B1602, (see quality data page 4).

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STUDENT-T TABLE FOR PLANT HEIGHT(CM)B1603 VS. B1602

<u>VARIETY</u>	<u>N</u>	<u>MEAN</u>	<u>STANDARD DEVIATION</u>	<u>STANDARD ERROR</u>	<u>T</u>	<u>DF</u>	<u>PROB>T</u>
B1602	54	83.2	8.764	1.1926	2.9964	106.0	0.034*
B1603	54	78.2	8.693	1.1829			

* THE DIFFERENCE IN MEANS IS SIGNIFICANT AT THE 5% LEVEL

BARI B1603 AGRONOMIC SUMMARIES 1983-1987

<u>VARIETY</u>	<u>YIELD (% MOREX)</u>						(35)	(36)	(17)	(13)	(19)
	(2)	(8)	(6)	(16)	(14)	(46)	HD.	HT.	LDG	NB	SB
	<u>83</u>	<u>84</u>	<u>85</u>	<u>86</u>	<u>87</u>	<u>X</u>	<u>JAN.1</u>	<u>CM</u>	<u>1-9</u>	<u>1-9</u>	<u>1-9</u>
B1603	111	97	118	116	100	108	179	83	3.2	4.8	3.3
B1602	128	100	119	119	110	114	180	88	2.5	5.3	2.9
MOREX	100	100	100	100	100	100	179	87	4.1	6.2	5.9
	(61)	(75)	(91)	(62)	(86)	(75)	= BU/A				
ROBUST	110	95	116	121	108	113	180	89	2.6	4.3	3.6

1983-1987: 46 STATION YEARS

Hd= Heading Date
 Mat=Plant Maturity
 Ldg=Plant Lodging
 NB= Net Blotch
 SB= Spot Blotch

8800061

STUDENT-T TABLE FOR PROTEINB1603 VS. B1602

<u>VARIETY</u>	<u>N</u>	<u>MEAN</u>	<u>STANDARD DEVIATION</u>	<u>STANDARD ERROR</u>	<u>T</u>	<u>DF</u>	<u>PROB>T</u>
B1602	26	12.2	0.7950	0.1559	4.0845	50	0.0002**
B1603	26	13.2	0.8994	0.1764			

** THE DIFFERENCE IN MEANS IS SIGNIFICANT AT THE 1% LEVEL

8800061

STUDENT-T TABLE FOR DIASTATIC POWERB1603 VS. B1602

<u>VARIETY</u>	<u>N</u>	<u>MEAN</u>	<u>STANDARD DEVIATION</u>	<u>STANDARD ERROR</u>	<u>T</u>	<u>DF</u>	<u>PROB>T</u>
B1602	26	131.7	16.4047	3.2172	3.6198	50	0.0007**
B1603	26	148.9	17.8893	3.5084			

** THE DIFFERENCE IN MEANS IS SIGNIFICANT AT THE 1% LEVEL

'B1603'

FORM GR-470-5
(11-1-72)UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
GRAIN DIVISION
HYATTSVILLE, MARYLAND 20782

FORM APPROVED. OMB NO. 40-R3712

EXHIBIT C
(Barley)OBJECTIVE DESCRIPTION OF VARIETY
BARLEY (*HORDEUM VULGARE*)

INSTRUCTIONS: See Reverse.

NAME OF APPLICANT(S)

Busch Agricultural Resources, Inc.

ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)

806 N. 2nd Street

Berthoud, Colorado

80513

FOR OFFICIAL USE ONLY

PVPO NUMBER

8800061

VARIETY NAME OR TEMPORARY
DESIGNATION

Place the appropriate number that describes the varietal character of this variety in the boxes below.

Place a zero in first box (i.e. or) when number is either 99 or less or 9 or less.

1. GROWTH HABIT:

 1 = SPRING 2 = FACULTATIVE WINTER 3 = WINTER Early Growth: 1 = PROSTRATE 2 = SEMIPROSTRATE
3 = ERECT 4 = semierect

2. MATURITY (50% Flowering):

 1 = EARLY (California Mariout) 2 = MIDSEASON (Betzes) 3 = LATE (Frontier)

**Equal to Morex

 No. of days Earlier than } 1 = BETZES 2 = CALIFORNIA MARIOUT 3 = CONQUEST 4 = DICKSON
 No. of days Later than } 5 = PIROLINE 6 = PRIMUS 7 = UNITAN 8 = Morex 9 = Bumper

3. PLANT HEIGHT (From soil level to top of head):

 1 = SEMIDWARF 2 = SHORT (California Mariout) 3 = MEDIUM TALL (Betzes) 4 = TALL (Conquest) Cm. Shorter than } 1 = BETZES 2 = CALIFORNIA MARIOUT 3 = CONQUEST 4 = DICKSON
 Cm. Taller than } 5 = PIROLINE 6 = PRIMUS 7 = UNITAN 8 = Morex

4. STEM:

 Exertion (Flag to spike at maturity): 1 = 0 - 3 cm. 2 = 3 - 10 cm. Anthocyanin: 1 = ABSENT 2 = PRESENT
3 = 10 - 15 cm. NO. OF NODES (Originating from node above ground) Collar Shape: 1 = CLOSED 2 = V-SHAPED 3 = OPEN Shape of Neck: 1 = STRAIGHT 2 = SNAKY (slightly)
4 = MODIFIED CLOSED OR OPEN 3 = OTHER (Specify)

5. LEAF:

 Basal leaf sheath (seedling): 1 = GLABROUS 2 = PUBESCENT Position of flag leaf (at boot stage): 1 = DROOPING
2 = UPRIGHT Waxiness: 1 = ABSENT (Glossy) 2 = SLIGHTLY WAXY MM. WIDTH (First leaf below flag leaf) CM. LENGTH (First leaf below flag leaf) Anthocyanin in leaf sheath: 1 = ABSENT 2 = PRESENT

6. HEAD:

 Type: 1 = TWO-ROWED 2 = SIX-ROWED Density: 1 = LAX 2 = ERECT (Not dense)
3 = ERECT (Dense) 4 = middense Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE Waxiness: 1 = ABSENT (Glossy) 2 = SLIGHTLY WAXY
4 = OTHER (Specify) 3 = WAXY Lateral Kernels Overlap: 1 = NONE 2 = AT TIP Rachis (Hair on edge): 1 = LACKING 2 = FEW 3 = COVERED
3 = 1/4 - 1/2 OF HEAD

7. GLUME:

 Length: 1 = 1/3 OF LEMMA 2 = 1/2 OF LEMMA Hairs: 1 = NONE 2 = SHORT 3 = LONG
3 = MORE THAN 1/2 OF LEMMA Hair covering: 1 = NONE 2 = RESTRICTED TO MIDDLE 3 = CONFINED TO BAND 4 = COMPLETELY COVERED Awns: 1 = LESS THAN EQUAL TO LENGTH OF GLUMES 2 = EQUAL TO LENGTH OF GLUMES
3 = MORE THAN EQUAL TO LENGTH OF GLUMES Awn Surface: 1 = SMOOTH 2 = SEMISMOOTH 3 = ROUGH

FORM GR-470-5 (Reverse)

8. LEMMA:

☐ 5 Awn: 1 = AWNLESS 2 = AWNLETS ON CENTRAL ROWS, AWNLESS ON LATERAL ROWS
3 = SHORT ON CENTRAL ROWS, AWNLETS ON LATERAL ROWS 4 = SHORT (less than equal to length of spike)
5 = LONG (longer than spike) 6 = HOODED

☐ 3 Awn Surface: 0 = AWNLESS 1 = SMOOTH 2 = SEMISMOOTH 3 = ROUGH

☐ 3 Teeth: 1 = ABSENT 2 = FEW 3 = NUMEROUS ☐ 1 Hair: 1 = ABSENT 2 = PRESENT

☐ 3 Shape of base: 1 = DEPRESSION 2 = SLIGHT CREASE 3 = TRANSVERSE CREASE ☐ 2 Rachilla Hairs: 1 = SHORT 2 = LONG

9. STIGMA:

☐ 2 Hairs: 1 = FEW 2 = MANY

10. SEED:

☐ 2 Type: 1 = NAKED 2 = COVERED ☐ 1 Hairs on Ventral Furrow: 1 = ABSENT 2 = PRESENT

☐ 2 Length: 1 = SHORT (8.0 mm.) 2 = SHORT TO MIDLONG (7.5 - 9.0 mm.) 3 = MIDLONG (8.5 - 9.5 mm.)
4 = MIDLONG TO LONG (9.0 - 10.5 mm.) 5 = LONG (10.0 mm.)

☐ 3 Wrinkling of hull: 1 = NAKED 2 = SLIGHTLY WRINKLED 3 = SEMIWRINKLED 4 = WRINKLED

☐ 1 Aleurone Color: 1 = COLORLESS (White or Yellow) 2 = BLUE

☐ 0 ☐ 0 PERCENT ABORTIVE none found in a 200 gram sample ☐ 4 ☐ 0 GMS. PER 1000 SEEDS

11. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant) 3 = Moderately Susceptible 4 = Moderately Resistant

<input type="checkbox"/> 0 SEPTORIA	<input type="checkbox"/> 4 NET BLOTCH	<input type="checkbox"/> 4 SPOT BLOTCH	<input type="checkbox"/> 0 POWDERY MILDEW
<input type="checkbox"/> 1 LOOSE SMUT	<input type="checkbox"/> 0 BACTERIAL BLIGHT	<input type="checkbox"/> 0 COVERED SMUT	<input type="checkbox"/> 0 FALSE LOOSE SMUT
<input type="checkbox"/> 2 STEM RUST	<input type="checkbox"/> 2 LEAF RUST	<input type="checkbox"/> 0 SCAB	<input type="checkbox"/> 0 SCALD
<input type="checkbox"/> 0 AY	<input type="checkbox"/> 0 BSMV	<input type="checkbox"/> 0 BYDV	<input type="checkbox"/> 0 OTHER (Specify)

12. INSECT: (0 = Not tested, 1 = Susceptible 2 = Resistant)

<input type="checkbox"/> 0 GREEN BUG	<input type="checkbox"/> 0 ENGLISH GRAIN APHID	<input type="checkbox"/> 0 CHINCH BUG	<input type="checkbox"/> 0 ARMYWORM
<input type="checkbox"/> 0 GRASS HOPPERS	<input type="checkbox"/> 0 CERIAL LEAF BETTLE	<input type="checkbox"/> 0 OTHER (Specify)	
HESSIAN FLY RACES } <input type="checkbox"/> 0 GP <input type="checkbox"/> 0 A <input type="checkbox"/> 0 B <input type="checkbox"/> 0 C <input type="checkbox"/> 0 D <input type="checkbox"/> 0 E <input type="checkbox"/> 0 F <input type="checkbox"/> 0 G			

13. CHEMICAL (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

☐ 0 DDT ☐ OTHER (Specify)

14. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	B1602	Seed size	B1602
Leaf size	B1602	Coleoptile elongation	B1602
Leaf color	B1602	Seedling pigmentation	B1602
Leaf carriage	B1602		

REFERENCES: The following publications may be used as a reference aid for the standardization of character descriptions and terms used in this form:

1. Wiebe, G. A., and D. A. Reid, 1961, Classification of Barley Varieties Grown in the United States and Canada in 1958, Technical Bulletin No. 1224, U.S. Dept. of Agriculture.
2. Reid, D. A., and G. A. Wiebe, 1968, Barley: Origin, Botany, Culture, Winter Hardiness, Genetics, Utilization, Pests, Agriculture Handbook No. 338, U.S. Dept. of Agriculture. pp. 61 - 84.
3. Malting Barley Improvement Association, Milwaukee, Wisconsin, 1971, Barley Variety Dictionary.

COLOR: Nickerson's or any recognized color fan may be used to determine color of the described variety.

EXHIBIT D.

ADDITIONAL BOTANICAL DESCRIPTION OF B1603

B1603 is a six-rowed spring barley bred and developed by Busch Agricultural Resources, Inc. Berthoud, Colorado. It has ~~early~~ to mid-season maturity and excellent malting quality.

2/9/91

Juvenile growth habit is semi-erect. Plant color at boot is green with an erect flag leaf. Head shape is strap with a slightly snakey neck and a v-shaped collar. Rachilla and glume hair is long, rachis is covered. The glume is completely covered with hair. Glume awn is more than equal to the glume length and is rough. Lemma awn is long and rough. Lemma teeth are numerous and hairs are absent. The seed is covered, short to midlong, semiwrinkled and aleurone is colorless or white.

B1603 is a midwestern six-rowed variety well adapted to the upper midwestern barley producing areas of North Dakota, Minnesota, South Dakota and Wisconsin. B1603 is a malting type barley currently in commercial scale testing. B1603 has been extensively tested in North Dakota and Minnesota. B1603 will mainly be merchandized in North Dakota, Minnesota and South Dakota.

EXHIBIT E.**STATEMENT OF THE BASIS OF APPLICANT'S OWNERSHIP**

Busch Agricultural Resources, Inc. is the applicant for protection in this case being:

- a. The incorporated business registered in Delaware for and within which regular employees have bred B1603.
- b. The proprietary owner and intending commercial seller of B1603.

EXHIBIT F
QUALITY AND AGRONOMIC DATA

BARI B1603 Agronomic Summaries 1983-1987.....page 1.
BARI Micromalt Summaries 1983-1986.....page 2.
Anheuser-Busch Large Scale Malting Trials 1984-1986.....page 3.

BARI B1603 AGRONOMIC SUMMARIES 1983-1987

VARIETY	YIELD (% MOREX)						(35)	(36)	(17)	(13)	(19)
	(2)	(8)	(6)	(16)	(14)	(46)	HD.	HT.	LDG	NB	SB
	83	84	85	86	87	X	JAN.1	CM	1-9	1-9	1-9
B1603	111	97	118	116	100	108	179	83	3.2	4.8	3.3
B1602	128	100	119	119	110	114	180	88	2.5	5.3	2.9
MOREX	100	100	100	100	100	100	179	87	4.1	6.2	5.9
	(61)	(75)	(91)	(62)	(86)	(75)	= BU/A				
ROBUST	110	95	116	121	108	113	180	89	2.6	4.3	3.6

1983-1987: 46 STATION YEARS

Hd= Heading Date
 Mat=Plant Maturity
 Ldg=Plant Lodging
 NB= Net Blotch
 SB= Spot Blotch

BARI MICROMALT SUMMARIES 1983-1986

<u>VARIETY</u>	<u>% PLUMP</u>	<u>PROTEIN</u>			<u>EXT.</u>	<u>D.P.</u>	<u>D.P./ PROT.</u>	<u>A.A.</u>
		<u>MALT</u>	<u>WORT</u>	<u>W/T</u>				
B1603	70	13.3	4.7	36	78.4	152	11.3	50
MOREX	59	13.5	4.9	36	77.8	144	10.6	50
ROBUST	74	13.5	4.4	33	78.7	127	9.4	29

1983-1986: 12 STATION YEARS

W/T=Wort Protein/Total Protein

EXT.=Extract

D.P.=Diastatic Power

D.P./Prot.=Diastatic Power/Protein

A.A.=Alpha Amylase

page 3.

ANHEUSER-BUSCH LARGE SCALE MALTING TRIALS 1984-1986

<u>ENTRY</u>	<u>MALT</u>	<u>TTL</u>	<u>EXTRACT</u>		<u>WORT</u>		<u>WORT</u>		<u>DP</u>	<u>AA</u>	<u>WORT</u>	
	<u>KERN</u>		<u>PRO</u>	<u>F.</u>	<u>F-C</u>	<u>VIS</u>	<u>W/T</u>	<u>PRO</u>			<u>CLR</u>	<u>TUR</u>
	<u>7/64</u>		<u>GRD</u>	<u>DIF</u>								
B1603	51	13.2	78.8	2.5	1.51	42.4	5.9	148	55.0	2.0	13	
MOREX	24	13.2	78.6	1.8	1.46	42.9	5.7	152	51.4	2.0	11	

Malt Kern=Malt Plumpness
 TTL Protein=Total Protein
 F. Grd=Fine Grind
 F-C=Fine-Coarse Differences
 Wort Vis=Wort Viscosity
 W/T=Wort Protein/Total Protein
 Wort Pro=Wort Protein
 DP=Diastatic Power
 AA=Alpha Amylase